

# Intercomparisons of total column ozone measurements from OMI TOMSv8, OMI DOAS, and MOD(Merged Ozone Data Set)

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1. Adnet Systems, Inc. 2. KNMI 3. SSAI Inc.

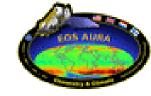




## **Topics**

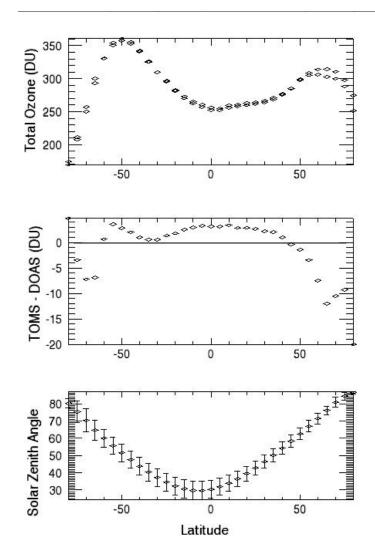
- Comparison of OMI TOMSv8 with DOAS
- Year-to-year changes in total ozone
- Effect of Clouds
- OMI TOMSv8 with Merged Ozone Data Set
- Concluding Remarks

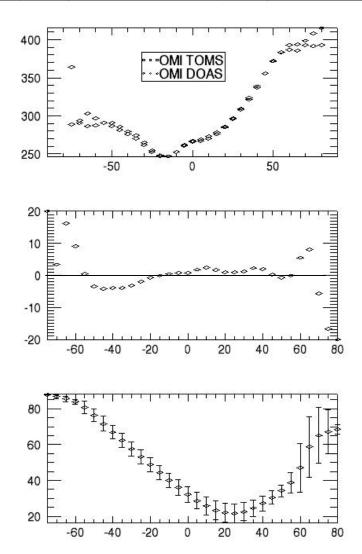
### OMI TOMSv8/DOAS Comparison



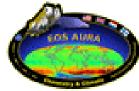
October 2005

May 2006

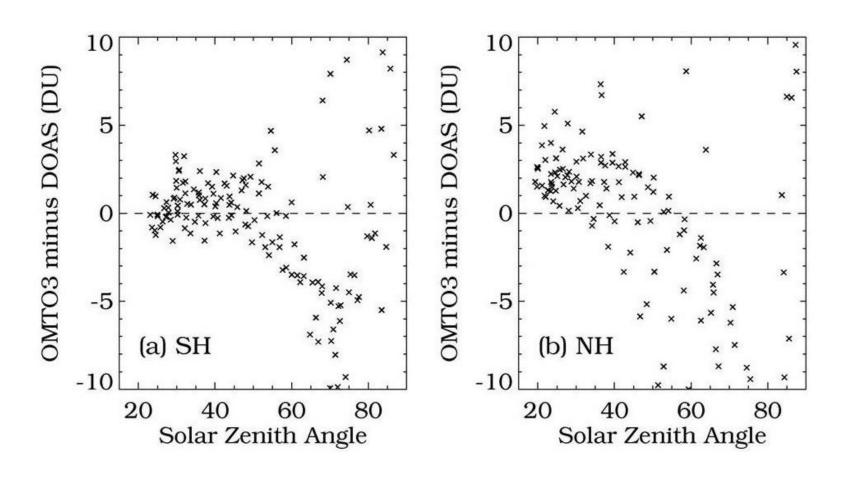






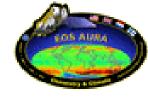


# Summary of OMI TOMS v8/DOAS Intercomparisons

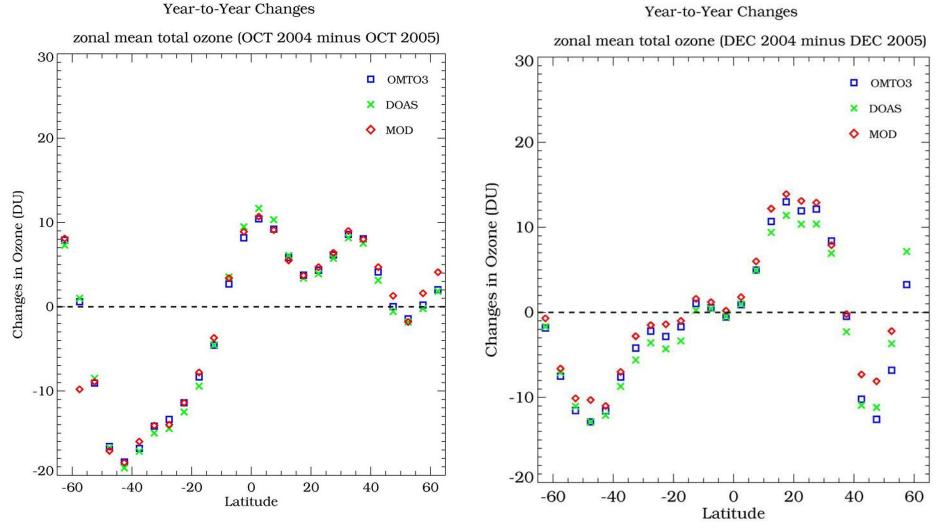




# Year to Year Changes in



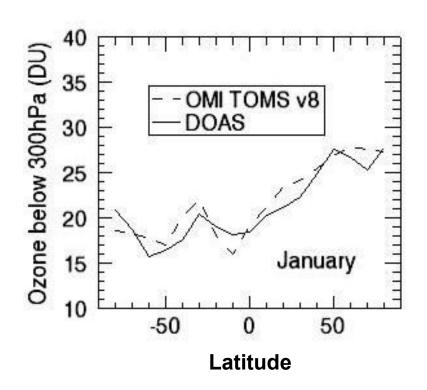
#### Total Ozone

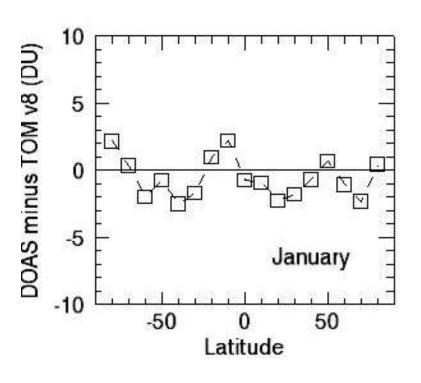




# Comparison of Ozone Climatologies

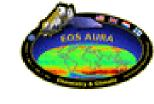


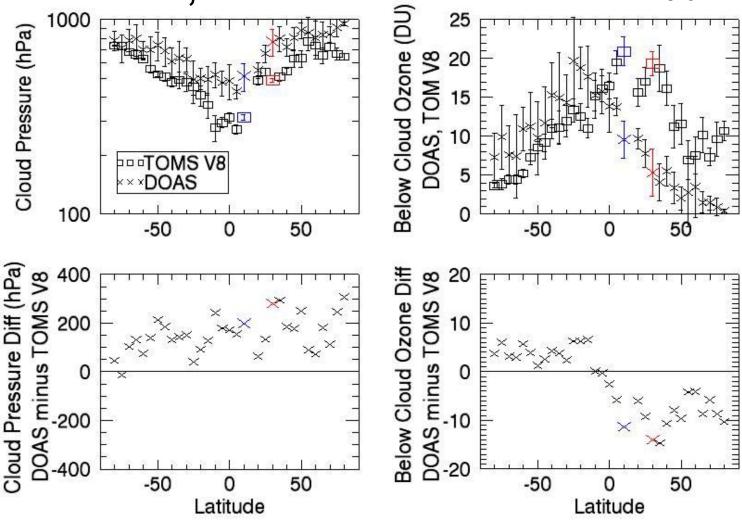












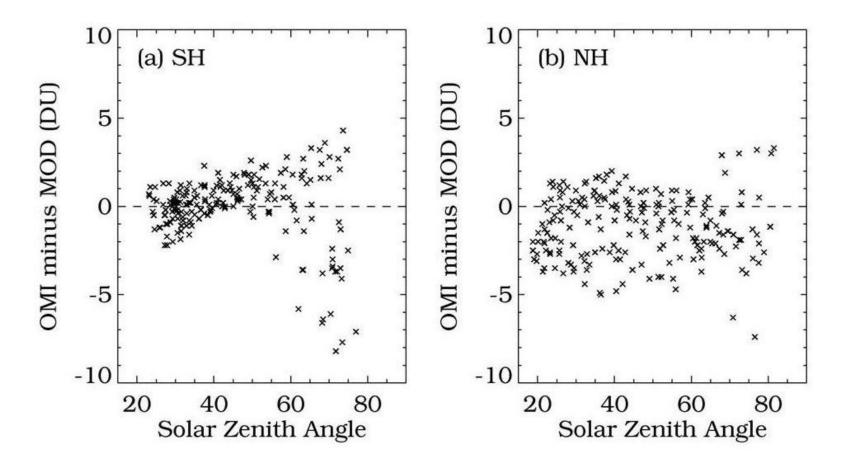


# Summary, Effect of Clouds

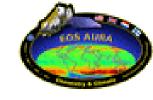
Cloud height has a greater impact than ozone climatologies.

Difference in Physical Parameters	21 March at 10 <sup>0</sup> N	21 March at 30 <sup>0</sup> N	21 December at 5°S
Cloud Pressure	200mb	300mb	200mb
Below Cloud Ozone	-12 DU	-15 DU	-5.5 DU
Below Cloud Ozone due to climatology	Zero	-2 DU	+1.5 DU
Below Cloud Ozone due to cloud height	-12 DU	-13 DU	-7 DU









## Concluding Remarks

- Among OMI TOMS v8, OMI DOAS, and MOD,
   Year-to-year changes show good agreement to within
   1 to 2 DU
- Cloud height is the most important factor in OMI TOMS v8/DOAS differences for cloudy scenes
- TOMS 8/DOAS comparisons are being studied for
  - snow/ice conditions
  - Cloud fraction < 25%</li>
  - Cloud fraction between 25% and 75%
  - Condition of enhanced aerosol loading
  - Possible stray light effects